RULES
OF
TENNESSEE DEPARTMENT OF AGRICULTURE
DIVISION OF MARKETS

CHAPTER 0080-5-12
KEROSENE AND MOTOR FUELS QUALITY INSPECTION REGULATIONS

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0080-5-12-.01 DEFINITIONS.

(1) "ASTM" (The American Society for Testing and Materials) means the national scientific and technical organization formed for the development of standards on characteristics and performance of materials, products, systems, and services and the promotion of related knowledge.

(2) "Antiknock Index (AKI)" means the arithmetic average of the Research octane number (RON) and Motor octane number (MON): AKI = (RON+MON)/2. This value is called by a variety of names, in addition to antiknock index, including: Octane rating, Posted octane, (R+M)/2 octane.

(3) "Automotive Fuel Rating" means the automotive fuel rating required under the amended Octane Certification and Posting Rule (or as amended, the Fuel Rating Rule), 16 CFR Part 306. Under this Rule, sellers of liquid automotive fuels, including alternative fuels, must determine, certify, and post an appropriate automotive fuel rating. The automotive fuel rating for gasoline is the antiknock index (octane rating). The automotive fuel rating for alternative liquid fuels consists of the common name of the fuel along with a disclosure of the amount, expressed as a minimum percentage by volume, of the principal component of the fuel. For alternative liquid automotive fuels, a disclosure of other components, expressed as a minimum percentage by volume, may be included, if desired.

(4) "Automotive Gasoline, Automotive Gasoline-Oxygenate Blend" means a type of fuel suitable for use in spark-ignition automobile engines and also commonly used in marine and non-automotive applications.

(5) "Aviation Gasoline" means a type of gasoline suitable for use as a fuel in an aviation spark-ignition internal combustion engine.

(6) "Aviation Turbine Fuel" means a refined middle distillate suitable for use as a fuel in an aviation gas turbine internal combustion engine.

(7) "Base Gasoline" means all components other than ethanol in a blend of gasoline and ethanol.

(8) "Biodiesel" (Biodiesel Fuel Blend Stock) means a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats.

(9) "Biodiesel Blend" means a fuel comprised of a blend of biodiesel fuel with petroleum-based diesel fuel, designated BXX. In the abbreviation BXX, the XX represents the liquid volume percentage of biodiesel fuel in the blend.

(Rule 0080-5-12-.01, continued)

(10) "Cetane Number" means a numerical measure of the ignition performance of a diesel fuel obtained by comparing it to reference fuels in a standardized engine test.

(11) "Commissioner" means the Commissioner of the Tennessee Department of Agriculture or a departmental employee designated by the Commissioner to act as his representative for purposes of these rules.

(12) "Department" means the Tennessee Department of Agriculture.

(13) "Diesel Fuel" means refined oils commonly used in internal combustion engines where ignition occurs by pressure and not by electric spark, the classification of which shall be defined by the American Society for Testing and Materials.

(14) "E85 Fuel Ethanol" means a blend of ethanol and hydrocarbons of which the ethanol portion is nominally 85 to 75 volume percent denatured fuel ethanol.

(15) "Engine Fuel" means any liquid or gaseous matter used for the generation of power in an internal combustion engine.

(16) "EPA" means the United States Environmental Protection Agency.

(17) "Ethanol" also known as Denatured Fuel Ethanol, means nominally anhydrous ethyl alcohol meeting ASTM D 4806 standards. It is intended to be blended with gasoline for use as a fuel in a spark-ignition internal combustion engine. The denatured fuel ethanol is first made unfit for drinking by the addition of Bureau of Alcohol, Tobacco, and Firearms (BATF) approved substances before blending with gasoline.

(18) "Fuel Oil" means a refined oil middle distillates, heavy distillates, or residues of refining, or blends of these, suitable for use as a fuel for heating or power generation, the classification of which shall be defined by ASTM D 396.

(19) "Gasoline" means a volatile mixture of liquid hydrocarbons generally containing small amounts of additives suitable for use as a fuel in a spark-ignition internal combustion engine.

(20) "Gasoline-Oxygenate Blend" means a fuel consisting primarily of gasoline along with a substantial amount (more than 0.35 mass percent oxygen, or more than 0.15 mass percent oxygen if methanol is the oxygenate) of one or more oxygenates.

(21) "Kerosene (or Kerosine)" means a refined oil intended for heating or illuminating use, the classification of which shall be defined by the American Society of Testing and Materials.

(22) "Lead Substitute" means an EPA-registered gasoline additive suitable, when added in small amounts to fuel, to reduce or prevent exhaust valve recession (or seat wear) in automotive spark-ignition internal combustion engines designed to operate on leaded fuel.

(23) "Lead Substitute Engine Fuel" means, for labeling purposes, a gasoline or gasoline-oxygenate blend that contains a "lead substitute."

(24) "Leaded" means, for labeling purposes, any gasoline or gasoline-oxygenate blend which contains more than 0.013 gram lead per liter (0.05 g lead per U.S. gal). NOTE: EPA defines leaded fuel as one which contains more than 0.0013 gram phosphorus per liter (0.005 g per U.S. gal), or any fuel to which lead or phosphorus is intentionally added.

(25) "Liquefied Petroleum Gas (LPG)" means a mixture of normally gaseous hydrocarbons, predominantly propane, that has been liquefied by compression or cooling, or both to

(Rule 0080-5-12-.01, continued)

facilitate storage, transport, and handling for use as a motor fuel, the classification of which shall be defined by the American Society of Testing and Materials.

(26) "Low Sulfur" means low sulfur diesel fuel that meets ASTM D 975 (e.g., Grade Low Sulfur No. 1-D or Grade Low Sulfur No. 2-D) standards. Diesel fuel containing higher amounts of sulfur for off-road use is defined by EPA regulations.

(27) "Low Temperature Operability" means a condition which allows the uninterrupted operation of a diesel engine through the continuous flow of fuel throughout its fuel delivery system at low temperatures. Fuels with adequate low temperature operability characteristics have the ability to avoid wax precipitation and clogging in fuel filters.

(28) "Lubricity" means a qualitative term describing the ability of a fluid to affect friction between, and wear to, surfaces in relative motion under load.

(29) "M85 Fuel Methanol" means a blend of methanol and hydrocarbons of which the methanol portion is nominally 70 to 85 volume percent.

(30) "Motor Octane Number" means a numerical indication of a spark-ignition engine fuel's resistance to knock obtained by comparison with reference fuels in a standardized ASTM D 2700 Motor Method engine test.

(31) "Oxygen Content of Gasoline" means the percentage of oxygen by mass contained in a gasoline.

(32) "Oxygenate" means an oxygen-containing, ashless, organic compound, such as an alcohol or ether, which can be used as a fuel or fuel supplement.

(33) "Racing Gasoline" means a specialty product similar in nature to automotive gasoline except that it is typically of lower volatility, has a narrower boiling range, a higher antiknock index, and is generally free of significant amounts of oxygenates. It is designed for use in vehicles with high compression engines, generally for racing purposes.

(34) "Person" means an individual, partnership, corporation, company, firm, association, or other business entity.

(35) "Research Octane Number" means a numerical indication of a spark-ignition engine fuel's resistance to knock obtained by comparison with reference fuels in a standardized ASTM D 2699 Research Method engine test.

(36) "Substantially Similar" means the EPA's "Substantially Similar" rule, Section 211 (f) (1) of the Clean Air Act [42 U.S.C. 7545 (f) (1)].

(37) "Thermal Stability" means the ability of a fuel to resist the thermal stress which is experienced by the fuel when exposed to high temperatures in a fuel delivery system. Such stress can lead to formation of insoluble gums or organic particulates. Insolubles can clog fuel filters and contribute to injector deposits.

(38) "Total Oxygenate" means the aggregate total in volume percent of all oxygenates contained in any fuel defined in this Chapter.

(39) "Unleaded" in conjunction with "engine fuel" or "gasoline" means any gasoline or gasoline-oxygenate blend to which no lead or phosphorus compounds have been intentionally added and which contains not more than 0.013 gram lead per liter (0.05 g lead per U.S. gal) and not more than 0.0013 gram phosphorus per liter (0.005 g phosphorus per U.S. gal).

(Rule 0080-5-12-.01, continued)

(40) "Wholesale Purchaser Consumer" means any person who is an ultimate consumer of gasoline, fuel methanol, fuel ethanol, diesel fuel, biodiesel, fuel oil, kerosene, aviation turbine fuels, natural gas, compressed natural gas, or liquefied petroleum gas who purchases or obtains the product from a supplier and receives delivery of that product into a storage tank.

Authority: *T.C.A. §47-18-1309.* ***Administrative History:*** *Original rule filed April 6, 1990; effective May 2l, 1990. Amendment filed August 31, 2000; effective December 29, 2000. Amendments filed June 22, 2005; effective October 28, 2005. Emergency rule filed April 27, 2006; expired on October 9, 2006. On October 10, 2006, rule reverted to status in effect October 28, 2005. Amendment filed February 6, 2007; effective June 28, 2007.*

0080-5-12-.02 STANDARD FUEL SPECIFICATIONS.

(1) Gasoline and Gasoline-Oxygenate Blends. - (as set forth in this regulation) shall meet the following requirements:

(a) The most recent version of ASTM D 4814, "Standard Specification for Automotive Spark Ignition Engine Fuel." Gasoline blended with ethanol at concentrations up to ten percent by volume shall be blended under any of the following three options:

1. The base gasoline used in such blends meets the requirements of ASTM D 4814 and the ethanol meets the requirements of ASTM D 4806. The finished blend meets ASTM D 4814 with the following permissible exceptions;

(i) The distillation minimum temperature at the 50 volume percent evaporated point shall not be less than 66 °C (150ºF).

(ii) The Minimum Test Temperature at which the Vapor/Liquid Ratio is equal to 20 shall be as follows for the applicable vapor lock protection class:

Class 1 shall be 51.5 °C (125 °F)

Class 2 shall be 49.0 °C (120 °F)

Class 3 shall be 45.0 °C (113 °F)

Class 4 shall be 41.5 °C (107 °F)

Class 5 shall be 37.0 °C (99 °F)

Class 6 shall be 35.0 °C (95 °F)

2. The blend meets the requirements of ASTM D 4814.

3. The base fuel used in such blends meets all the requirements of ASTM D 4814 except distillation, and the blend meets the distillation requirements of ASTM D 4814.

(b) Blends of gasoline and ethanol shall meet the following vapor pressure requirements:

1. During the period between June 1 and September 15 of each calendar year, blends containing a minimum of 9 percent ethanol by volume and a maximum of 10 percent ethanol by volume shall not exceed the ASTM D 4814 vapor pressure limits by more than 1.0 p.s.i. All other blend concentrations shall meet the ASTM D 4814 vapor pressure limits.

(Rule 0080-5-12-.02, continued)

2. During the period between September 16 and May 31 of each calendar year, all blends of gasoline and ethanol shall not exceed the ASTM D 4814 vapor pressure limits by more than 1.0 p.s.i.

(c) Blends of gasoline and ethanol shall contain no more than 10 volume percent ethanol.

(d) "Minimum Antiknock Index (AKI)" the AKI shall not be less than the AKI posted on the product dispenser or as certified on the invoice, bill of lading, shipping paper, or other documentation;

(e) "Minimum Motor Octane Number" the minimum motor octane number shall not be less than 82 for gasoline with an AKI of 87 or greater;

(f) "Minimum Lead Content to Be Termed (Leaded)" gasoline and gasoline-oxygenate blends sold as "leaded" shall contain a minimum of 0.013 gram of lead per liter (0.05 g per U.S. gal);

(g) "Lead Substitute Gasoline" gasoline and gasoline-oxygenate blends sold as "lead substitute" gasoline shall contain a lead substitute which provides protection against exhaust valve seat recession equivalent to at least 0.026 gram of lead per liter (0.10 g per U.S. gal).

1. "Documentation of Exhaust Valve Seat Protection" upon the request of the Commissioner, the lead substitute additive manufacturer shall provide documentation to the Commissioner that demonstrates that the treatment level recommended by the additive manufacturer provides protection against exhaust valve seat recession equivalent to or better than 0.026 gram per liter (0.1 g/gal) lead. The Commissioner may review the documentation and approve the lead substitute additive before such additive is blended into gasoline. This documentation shall consist of:

(i) Test results as published in the Federal Register by the EPA Administrator as required in Section 211(f)(2) of the Clean Air Act, or;

(ii) Until such a time as the EPA Administrator develops and publishes a test procedure to determine the additive's effectiveness in reducing valve seat wear, test results and description of the test procedures used in comparing the effectiveness of 0.026 gram per liter lead and the recommended treatment level of the lead substitute additive shall be provided.

(h) "Blending," Leaded, lead substitute, and unleaded gasoline-oxygenate blends shall be blended according to the EPA "substantially similar" rule or an EPA waiver for unleaded fuel.

(2) Diesel Fuel shall meet the most recent version of ASTM D 975, "Standard Specification for Diesel Fuel Oils."

(a) Premium Diesel Fuel - All diesel fuels identified on retail dispensers, bills of lading, invoices, shipping papers, or other documentation with terms such as premium, super, supreme, plus, or premier must conform to the following requirements:

1. Cetane Number **-** A minimum cetane number of 47.0 as determined by ASTM Standard Test Method D 613.

(Rule 0080-5-12-.02, continued)

2. Low Temperature Operability - A cold flow performance measurement which meets the ASTM D 975 tenth percentile minimum ambient air temperature charts and maps by either ASTM Standard Test Method D 2500 (Cloud Point) or ASTM Standard Test Method D 4539 (Low Temperature Flow Test, LTFT). Low temperature operability is only applicable October 1 - March 31 of each year.

3. Thermal Stability **-** A minimum reflectance measurement of 80 percent as determined by ASTM Standard Test Method D 6468 (180 minutes, 150°C [302ºF]).

4. Lubricity – A maximum wear scar diameter of 520 microns as determined by ASTM D 6079. If an enforcement jurisdiction's single test of more than 560 microns is determined, a second test shall be conducted. If the average of the two tests is more than 560 microns, the sample does not conform to the requirements of this part.

(3) Aviation Turbine Fuels shall meet the most recent version of ASTM D 1655, "Standard Specification for Aviation Turbine Fuels."

(4) Aviation Gasoline shall meet the most recent version of ASTM D 910, "Standard Specification for Aviation Gasoline."

(5) Fuel Oils shall meet the most recent version of ASTM D 396, "Standard Specification for Fuel Oils."

(6) Kerosene (Kerosine) shall meet the most recent version of ASTM D 3699, "Standard Specification for Kerosine."

(7) Ethanol intended for blending with gasoline shall meet the most recent version of ASTM D 4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel."

(8) Liquefied Petroleum (LP) Gases Intended for Use as Motor Fuel shall meet ASTM D 1835, "Standard Specification for Liquefied Petroleum (LP) Gases."

(9) E85 Fuel Ethanol shall meet the most recent version of ASTM D 5798, "Standard Specification for Fuel Ethanol (Ed75-Ed85) for Automotive Spark-Ignition Engines."

(10) M85 Fuel Methanol shall meet the most recent version of ASTM D 5797, "Standard Specification for Fuel Methanol M70-M85 for Automotive Spark Ignition Engines."

(11) Racing Gasoline shall meet the following requirement:

(a) "Minimum Antiknock Index (AKI)" the AKI shall not be less than the AKI posted on the product dispenser or as certified on the invoice, bill of lading, shipping paper, or other documentation.

(12) Biodiesel (Biodiesel Fuel Blend Stock) – All Biodiesel blend stock intended for blending with diesel fuel shall meet the most recent version of ASTM D 6751, "Standard Specification for Biodiesel Fuel (B100) Blend Stock for Distillate Fuels." All biodiesel blend stock shall be at least 99% biodiesel (no more than 1% diesel fuel). Any blend stock less than 99% biodiesel shall not be used as a commercial blend stock for biodiesel blends without the permission of the Commissioner.

(13) Biodiesel Blends – Blends of biodiesel and diesel fuels shall meet the following requirements: the base diesel fuel shall meet the most current requirements of ASTM D 975, Standard

(Rule 0080-5-12-.02, continued)

Specification for Diesel Fuel Oils; the biodiesel blend stock shall meet the most current requirements of ASTM D 6751, Standard Specification for Biodiesel Fuel (B100) Blend Stock for Distillate Fuels, with the following exception: Biodiesel may be blended with diesel fuel whose sulfur, lubricity, or aromatic levels are outside specification ASTM D 975, Standard Specification for Diesel Fuel Oils, Grades 1-D, low sulfur 1-D, 2-D, or low sulfur 2-D, provided the finished mixture meets pertinent national and local specifications and requirements for these properties.

(14) Biodiesel Blends up to 5 Percent by Volume – Biodiesel blends up to 5% by volume shall meet the most recent version of ASTM D 975, "Standard Specification for Diesel Fuel Oils". At such time that an ASTM standard specification is developed for blends up to 5%, the ASTM standard shall prevail as rule.

(15) Biodiesel Blends More Than Five Percent and Up to Twenty Percent by Volume – Biodiesel blends more than 5% and up to 20% by volume shall meet the most recent version of ASTM D 975, "Standard Specification for Diesel Fuel Oils", except that the maximum temperature of the 90 percent volume recovered distillation point shall be five degrees centigrade greater than that specified in Table 1 of ASTM D 975. At such time that an ASTM standard specification is developed for blends greater than 5% and up to 20%, the ASTM standard shall prevail as rule.

(16) Low Temperature Operability of Biodiesel Blends – All biodiesel blends must meet the tenth percentile minimum ambient temperature values for low temperature operability as published in ASTM D 975 Appendix X.4. Low temperature operability may be qualified by either ASTM Standard Test Method D 4539 or ASTM Standard Test Method D 2500.

(17) Biodiesel Conveyed at Public Retail Sale Points – Biodiesel conveyed at retail sale points that are available to the general consuming public shall not exceed 20% by volume.

Authority: *T.C.A. § 47-18-1304 and § 47-18-1309.* ***Administrative History:*** *Original rule filed April 6, 1990; effective May 2l, 1990. Amendment filed August 31, 2000; effective December 29, 2000. Amendments filed June 22, 2005; effective October 28, 2005. Emergency rule filed April 27, 2006; expired on October 9, 2006. On October 10, 2006, rule reverted to status in effect October 28, 2005. Amendment filed February 6, 2007; effective June 28, 2007. Public necessity rule filed September 5, 2007; effective through February 17, 2008. Amendments filed November 30, 2007; effective February 13, 2008.*

0080-5-12-.03 CLASSIFICATION AND METHOD OF SALE OF PETROLEUM PRODUCTS.

(1) General Considerations

(a) "Documentation," when gasoline; gasoline-oxygenate blends; reformulated gasoline; M85 and M100 fuel methanol; E85 and E100 fuel ethanol; liquefied petroleum (LP) gases intended for use as a motor fuel; compressed natural gas; liquefied natural gas; biodiesel; diesel fuel; kerosene; aviation gasoline; aviation turbine fuels; racing gasoline; or, fuel oils are sold, an invoice, bill of lading, shipping paper or other documentation, must accompany each delivery other than a retail sale. This document must identify the quantity, the name of the product, the particular grade of the product, the applicable automotive fuel rating, and oxygenate type and content (if applicable as determined by 0080-5-12-.03 (2)(h)), the name and address of the seller and buyer, and the date and time of the sale. Documentation must be retained at the retail establishment for a period not less than 30 days.

(b) "Retail Dispenser Labeling," all retail dispensing devices must identify conspicuously the type of product, the particular grade of the product, and the applicable automotive fuel rating.

(Rule 0080-5-12-.03, continued)

(c) "Grade Name," the sale of any product under any grade name that indicates to the purchaser that it is of a certain automotive fuel rating or ASTM grade shall not be permitted unless the automotive fuel rating or grade indicated in the grade name is consistent with the value and meets the requirements of 0080-5-12-.02, Standard Fuel Specifications.

(d) Each retail dispenser must be identified by a number, other than or in addition to a serial number, permanently affixed to the dispenser.

(2) Automotive Gasoline and Automotive Gasoline-Oxygenate Blends

(a) "Posting of Antiknock Index Required," all dispensing devices of automotive gasoline and automotive gasoline-oxygenate blends shall post the antiknock index in accordance with applicable regulations, 16 CFR Part 306 issued pursuant to the Petroleum Marketing Practices Act, as amended.

(b) "When the Term (Leaded) May be Used," the term "leaded" shall only be used when the fuel meets specification requirements of 0080-5-12-.02 (e).

(c) "Use of Lead Substitute Must Be Disclosed," each dispensing device from which gasoline or gasoline oxygenate blend containing a lead substitute is dispensed shall display the following legend: "Contains Lead Substitute." The lettering of this legend shall not be less than 12 millimeters (1/2 in) in height and the color of the lettering shall be in definite contrast to the background color to which it is applied.

(d) "Nozzle Requirements for Leaded Fuel," each dispensing device from which gasoline or gasoline-oxygenate blends that contains lead in amounts sufficient to be considered "leaded" gasoline, or lead substitute engine fuel, is sold shall be equipped with a nozzle spout having a terminal end with an outside diameter of not less than 23.63 millimeters (0.930 in).

(e) "Prohibition of Terms," it is prohibited to use the following terms to describe a grade of gasoline or gasoline-oxygenate blend unless it meets the following minimum antiknock index requirement:

1. Premium, Super, Supreme, High Test, Premier, Ultra, Ultimate must be a minimum of 91 AKI;

2. Midgrade, Plus, Extra, or other approved terms, must be a minimum of 89 AKI;

3. Regular Leaded, must be a minimum of 89 AKI;

4. Regular, Unleaded must be a minimum of 87 AKI.

The use of any other term not listed above in (2)(e) to describe a grade of gasoline must be approved by the Commissioner.

(f) "Method of Retail Sale-Type of Oxygenate Must be Disclosed," all automotive gasoline or automotive gasoline-oxygenate blends kept, offered, or exposed for sale, or sold, at retail containing at least 1.5 mass percent oxygen shall be identified as "with" or "containing" (or similar wording) the predominant oxygenate in the engine fuel. For example, the label may read "contains ethanol" or "with MTBE." The oxygenate contributing the largest mass percent oxygen to the blend shall be considered the predominant oxygenate. Where mixtures of only ethers are present, the retailer may post the predominant oxygenate followed by the phrase "or other ethers" or

(Rule 0080-5-12-.03, continued)

alternatively post the phrase “contains MTBE or other ethers.” In addition, gasoline-methanol blend fuels containing more than 0.15 mass percent oxygen from methanol shall be identified as “with” or “containing” methanol. This information shall be posted on the upper 50 percent of the dispenser front panel in a position clear and conspicuous from the driver's position in a type at least 12.7 mm (½ in) in height, 1.5 mm (1/16 in) stroke (width of type).

(g) “Documentation for Dispenser Labeling Purposes,” the retailer shall be provided, at the time of delivery of the fuel, on an invoice, bill of lading, shipping paper, or other documentation, a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify either the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen) or, alternatively, use the phrase “contains MTBE or other ethers.” In addition, any gasoline containing more than 0.15 mass percent oxygen from methanol shall be identified as “with” or “containing” methanol. This documentation is only for dispenser labeling purposes; it is the responsibility of any potential blender to determine the total oxygen content of the engine fuel before blending.

(3) Diesel Fuel

(a) “Labeling of Grade Requirements,” Diesel Fuel shall be identified by grades No. 1-D, No. 1-D (low sulfur), No. 2-D, No. 2-D (low sulfur), or No. 4-D. For grades other than No. 2-D Low Sulfur, each retail dispenser of diesel fuel shall be labeled according to the grade being dispensed except the words “low sulfur” are not required.

(b) “Location of Label,” these labels shall be located on the upper 50 percent of the dispenser front panel in a position clear and conspicuous from the driver’s position, in a type at least 12 millimeter (1/2 in) in height, 1.5 millimeter (1/16 in) stroke (width of type).

(4) Aviation Turbine Fuel

(a) “How to Identify Aviation Turbine Fuels,” aviation turbine fuels shall be identified by Jet A, Jet A-1, or Jet B.

(b) “Labeling of Grade Required,” each dispenser or airport fuel truck dispensing aviation turbine fuels shall be labeled conspicuously as to identify the product being sold as classified above.

(5) Aviation Gasoline

(a) “How to Identify Aviation Gasoline,” aviation gasoline shall be identified by Grade 80, Grade 100, or Grade 100LL.

(b) “Labeling of Grade Required,” each dispenser or airport fuel truck dispensing aviation gasoline shall be labeled conspicuously as to identify the product being sold as classified above.

(6) Fuel Oils

(a) “How to Identify Fuel Oils,” fuel oil shall be identified by the grades of No. 1, No. 2, No. 4 (Light), No. 4, No. 5 (Light), No. 5 (Heavy), or No. 6.

(Rule 0080-5-12-.03, continued)

(b) "Labeling of Grade Required," each retail dispenser or delivery truck dispensing fuel oil shall be labeled conspicuously as to identify the product being sold as classified above.

(7) Kerosene (Kerosine)

(a) "How to Identify Kerosene," kerosene shall be identified by the grades No. 1-K or No. 2-K.

(b) "Labeling Requirements," each retail dispenser of kerosene shall be labeled as 1-K Kerosene or 2-K. In addition, No. 2-K dispensers shall display the following legend:

1. "Warning - Not Suitable For Use In Unvented Heaters Requiring No. 1-K." The lettering of this legend shall not be less than 12 millimeters (1/2 in) in height by 1.5 millimeters (1/16 in) strokes; block style letters and the color of lettering shall be in definite contrast to the background color to which it is applied.

(8) Fuel Ethanol

(a) "How to Identify Fuel Ethanol," fuel ethanol shall be identified by the capital letter E followed by the numerical value volume percentage. (Example: E85)

(b) "Retail Dispenser Labeling," each retail dispenser of fuel ethanol shall be labeled with the capital letter E followed by the numerical value volume percent denatured ethanol and ending with the word "ethanol." (Example: E85 Ethanol)

(c) "Additional Labeling Requirements," fuel ethanol shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

(9) Fuel Methanol

(a) "How Fuel Methanol is to be Identified," fuel methanol shall be identified by the capital letter M followed by the numerical value volume percentage of methanol. (Example: M85)

(b) "Retail Dispenser Labeling," each retail dispenser of fuel methanol shall be labeled by the capital letter M followed by the numerical value volume percent and ending with the word "methanol." (Example: M85 Methanol)

(c) "Additional Labeling Requirements," fuel methanol shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

(10) Liquefied Petroleum (LP) Gas

(a) "How LPG is to Be Identified," liquefied petroleum gases intended for use as a motor fuel shall be identified by grades Commercial Propane or Special-Duty Propane (HD5).

(b) "Retail Dispenser Labeling," each retail dispenser of liquefied petroleum gases intended for use as a motor fuel shall be labeled as "Commercial Propane" or "Special-Duty Propane (HD5)."

(c) "Additional Labeling Requirements," liquefied Petroleum Gas intended for use as a motor fuel shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

(11) Racing Gasoline

(Rule 0080-5-12-.03, continued)

(a) "Posting of Antiknock Index Required" all dispensing devices of racing gasoline shall post the Antiknock Index in accordance with applicable regulations, 16 CFR Part 306 issued pursuant to the Petroleum Marketing Practices Act, as amended.

(b) "Method of Retail Sale-Type of Oxygenate Must be Disclosed" all racing gasoline kept, offered, or exposed for sale, or sold, at retail containing at least 0.15 mass percent oxygen shall be identified by a label that lists all oxygenates contained in the fuel. The information shall be posted on the upper 50% of the dispenser front panel in a position clear and conspicuous from the driver's position in a type at least 12.7 mm (1/2 in.) in height and 1.5 mm (1/6") stroke (width of type).

(c) "Documentation for Dispenser Labeling Purposes" the retailer shall be provided, at the time of delivery of the fuel, on an invoice, bill of lading, shipping paper, or other documentation, a declaration of all oxygenates present in concentration sufficient to yield an oxygenate content of at least 0.15 mass percent in the fuel. This documentation is for dispenser labeling purposes; it is the responsibility of any potential blender to determine the total oxygenate content of the engine fuel before blending.

(12) Biodiesel

(a) Identification of Product – Biodiesel and biodiesel blends containing more than 5% by volume shall be identified by the term Biodiesel Blend.

(b) Labeling of Dispensers Containing more than Five Percent (5%) and Up to Twenty Percent (20%) Biodiesel – Each dispenser of biodiesel blends containing more than 5% and up to and including 20% shall be labeled with either the capital letter B followed by the numerical value representing the volume percentage of biodiesel fuel and ending with "Biodiesel Blend." (Examples: B10 Biodiesel Blend; B20 Biodiesel Blend), or the phrase "Biodiesel Blend between 5% and 20%" or similar words.

(c) Documentation for Dispenser Labeling Purposes – The retailer shall be provided, at the time of delivery of the fuel, with a declaration of the volume percent biodiesel on an invoice, bill of lading, shipping paper, or other document. This documentation is for dispenser labeling purposes only; it is the responsibility of any potential blender to determine the amount of biodiesel in the diesel fuel prior to blending.

Authority: *T.C.A. §47-18-1304 and § 47-18-1309.* ***Administrative History:*** *Original rule filed April 6, 1990; effective May 21, 1990. Amendment filed August 31, 2000; effective December 29, 2000. Amendment filed June 22, 2005; effective October 28, 2005. Emergency rule filed April 27, 2006; expired on October 9, 2006. On October 10, 2006, rule reverted to status in effect October 28, 2005. Amendment Filed February 6, 2007; effective June 28, 2007.*

0080-5-12-.04 WATER IN RETAIL TANKS.

(1) "Water in Retail Storage Tanks containing Gasoline-Alcohol Blends, Aviation Gas, and Aviation Turbine Fuel," no water phase greater than 6 millimeters (1/4 in) as determined by an appropriate detection paste, is allowed to accumulate in any tank utilized in the storage of gasoline-alcohol blend, aviation gasoline, and aviation turbine fuel.

(2) "Water in Retail Storage Tanks Containing Gasoline, Diesel, and Other Fuels," water shall not exceed 50 millimeters (2 in) in depth when measured with water indicating paste in any tank utilized in the storage of diesel, gasoline, gasoline-ether blends, fuel oils, and kerosene sold at retail.

(Rule 0080-5-12-.04, continued)

Authority: *T.C.A. §47-18-1309.* ***Administrative History:*** *Original rule filed April 6, 1990; effective May 21, 1990. Amendment filed August 31, 2000; effective December 29, 2000.*

0080-5-12-.05 PRODUCT STORAGE IDENTIFICATION.

(1) "Fill Connection Labeling," the fill connection for any petroleum product storage tank or vessel supplying engine-fuel devices shall be permanently, plainly, and visibly marked as to the product contained by means of :

(a) A permanently attached tag or label and;

(b) American Petroleum Institute color codes as specified and published in "API Recommended Practice 1637".

(2) "Volume of Product Information," each retail location shall maintain on file a calibration chart or other means of determining the volume of each regulated product in each storage tank and the total capacity of such storage tank(s). This information shall be supplied immediately to the inspector upon request.

Authority: *T.C.A. §47-18-1309.* ***Administrative History:*** *Original rule filed April 6, 1990; effective May 2l, 1990. Amendment filed August 31, 2000; effective December 29, 2000.*

0080-5-12-.06 CONDEMNED PRODUCT.

(1) "Stop Sale Order," a stop sale order may be issued as a Class One stop sale order or a Class Two stop sale order. When a stop sale order is placed on a terminal or bulk storage plant, the terminal or bulk storage plant operators shall immediately notify all customers that received those product(s) and make any arrangements necessary to replace or adjust to specifications those product(s). A list of all parties contacted by the supplier must be provided to the Commissioner. A release from a stop sale order will be awarded only after final disposition has been agreed upon by the Commissioner. Confirmation of disposition of products shall be made available in writing to the Commissioner.

Authority: *T.C.A. §47-18-1309.* ***Administrative History:*** *Original rule filed April 6,1990; effective May 21, 1990. Amendment filed August 31, 2000; effective December 29, 2000.*

0080-5-12-.07 REPEALED.

Authority: *T.C.A. §47-18-1309.* ***Administrative History:*** *Original rule filed April 6, 1990; effective May 21, 1990. Repeal filed August 31, 2000; effective December 29, 2000.*

0080-5-12-.08 TEST METHODS AND REPRODUCIBILITY LIMITS.

(1) ASTM Standard Test Methods referenced for use within the applicable Standard Specification shall be used to determine the specification values for enforcement purposes. When no ASTM methods exist, accepted industry test methods specified in rule shall be used to determine compliance.

(2) Premium Diesel - The following test methods shall be used to determine compliance with the applicable premium diesel parameters:

(a) Lubricity - ASTM D 6079;

(b) Cetane Number - ASTM D 613;

(Rule 0080-5-12-.08, continued)

(c) Low Temperature Operability - ASTM D 4539 or ASTM D 2500 (according to marketing claim);

(d) Thermal Stability – ASTM D6468 (180 minutes, 150 ºC [302 ºF]);

(3) Biodiesel Blends – The test method for determining the percent biodiesel in a blend of biodiesel and diesel fuel shall be EN 14078 "Liquid petroleum products – Determination of fatty methyl esters (FAME) in middle distillates – Infrared spectroscopy method." At such time that ASTM develops a comparable standard test method, the ASTM method shall become the standard method for purposes of this rule.

(4) Reproducibility Limits:

(a) "AKI Limits," when determining the antiknock index (AKI) acceptance or rejection of a gasoline sample, the AKI reproducibility limits as outlined in ASTM D 4814 Appendix X1 shall be routinely acknowledged for enforcement purposes. However, if recurrent values are determined at or near the reproducibility limit from a single marketer, the Commissioner may take necessary enforcement actions to correct the condition.

(b) "Tests Other Than AKI," the reproducibility limits of the ASTM or other accepted standard test method used for each test performed shall be acknowledged for enforcement purposes, except as indicated in 0080-5-12-.08 (3)(a) and in 0080-5-12-.02 (2)(a)4. However, if recurrent values are determined at or near the reproducibility limit from a single marketer, the Commissioner may take necessary enforcement actions to correct the condition.

Authority: *T.C.A. § 47-18-1304 and § 47-18-1309.* ***Administrative History:*** *Original rule filed August 31, 2000; effective December 29, 2000. Amendments filed June 22, 2005; effective October 28, 2005. Emergency rule filed April 27, 2006; expired on October 9, 2006. On October 10, 2006, rule reverted to status in effect October 28, 2005. Amendment filed February 6, 2007; effective June 28, 2007.*

0080-5-12-.09 SAMPLING OF PETROLEUM PRODUCTS.

(1) Samples of petroleum products collected for testing shall be pumped, pulled, drawn, or otherwise procured in accordance with any of the following standard procedures:

(a) ASTM D 4057, "Standard Practice for Manual Sampling of Petroleum and Petroleum Products;"

(b) 40 CFR Part 80, Appendix D or subsequent US EPA sampling instructions;

(c) ASTM D 5842, "Standard Practice for Sampling and Handling of Fuels for Volatility Measurement;"

(d) NCWM Publication 21, "Petroleum Products Sampling Procedures and Safety Manual."

Authority*: T.C.A. §§47-18-1309.* ***Administrative History:*** *Original rule filed August 31, 2000; effective December 29, 2000.*

0080-5-12-.10 DISPOSITION OF SAMPLE RETAINS.

(1) All unused portions of samples remaining after testing shall be disposed of either by use in official state vehicles or through proper waste disposal procedures. If the unused portions of samples are used in official state vehicles, the state or contract laboratory shall be responsible for storing and dispensing product to authorized vehicles. A log of all product transfers shall be maintained by the state or contract laboratory.

(Rule 0080-5-12-.10, continued)

Authority**: T.C.A. §§47-18-1309.* ***Administrative History: *Original rule filed August 31, 2000; effective December 29, 2000. Amendment filed June 22, 2005; effective October 28, 2005.*